



Transportation 2040

Developing a Sustainable Transportation System

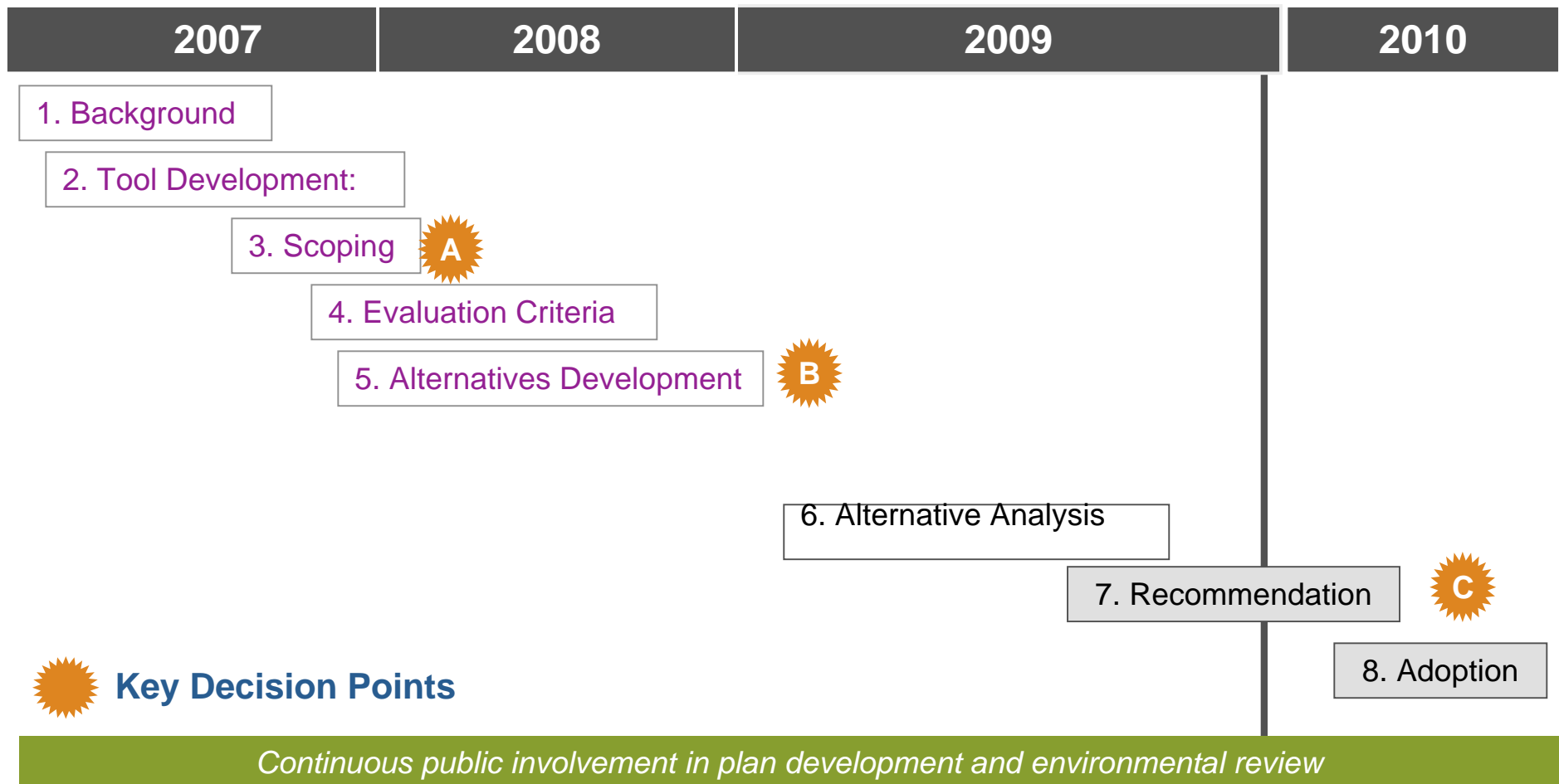
Washington State Transportation Commission
December 15, 2009



Presentation Outline

1. Schedule
2. Preferred Alternative
 - Plan Elements
 - Performance

Schedule



Schedule Update

- **December:** **Executive Board Approves Preferred Alt.***
- Dec-Feb 2010: Draft Plan Review/Refinement
- March 2010: Publish Final EIS
- **Feb/Apr. 2010:** **Recommendation on Plan***
- May 2010: General Assembly Adopts Plan

* Decision Points

From DEIS to DPA: Summer/Fall 2009

Outreach

- Transportation 2040 Town Hall
- Courtesy Public Hearing
- Notice of Availability Postcard
(1,282 Recipients)
- Print & Online Advertising
(12 papers, 647,000 circulation, month online)
- 5 Environ. Justice Round Tables
- 3 Regional Open Houses
- *Regional VIEW* Article
(10,152 Recipients)
- 5 *At Work* Newsletter Updates
(1,268 Recipients)
- Regular Website Updates
- Present. to 11 member jurisdictions
- Present. to 12 other interest groups

Board & Committee Work

- Executive Board: 4 meetings
- Transportation Policy Board: 4 meetings
- GMPB & EDD: regular briefings & discussions
- T2040 Working Group & Pricing Task Force: 7 regular & 3 Financial Strategy meetings
- Regional Staff Committee: 7 meetings
- Alternatives Technical Group: 3 meetings
- Recommendations from:
 - Bicycle Pedestrian Advisory Committee
 - Regional Freight Mobility Roundtable
 - Regional Traffic Operations Committee
 - Special Needs Transportation Committee
 - TDM Steering Committee
 - Transportation Operators Committee

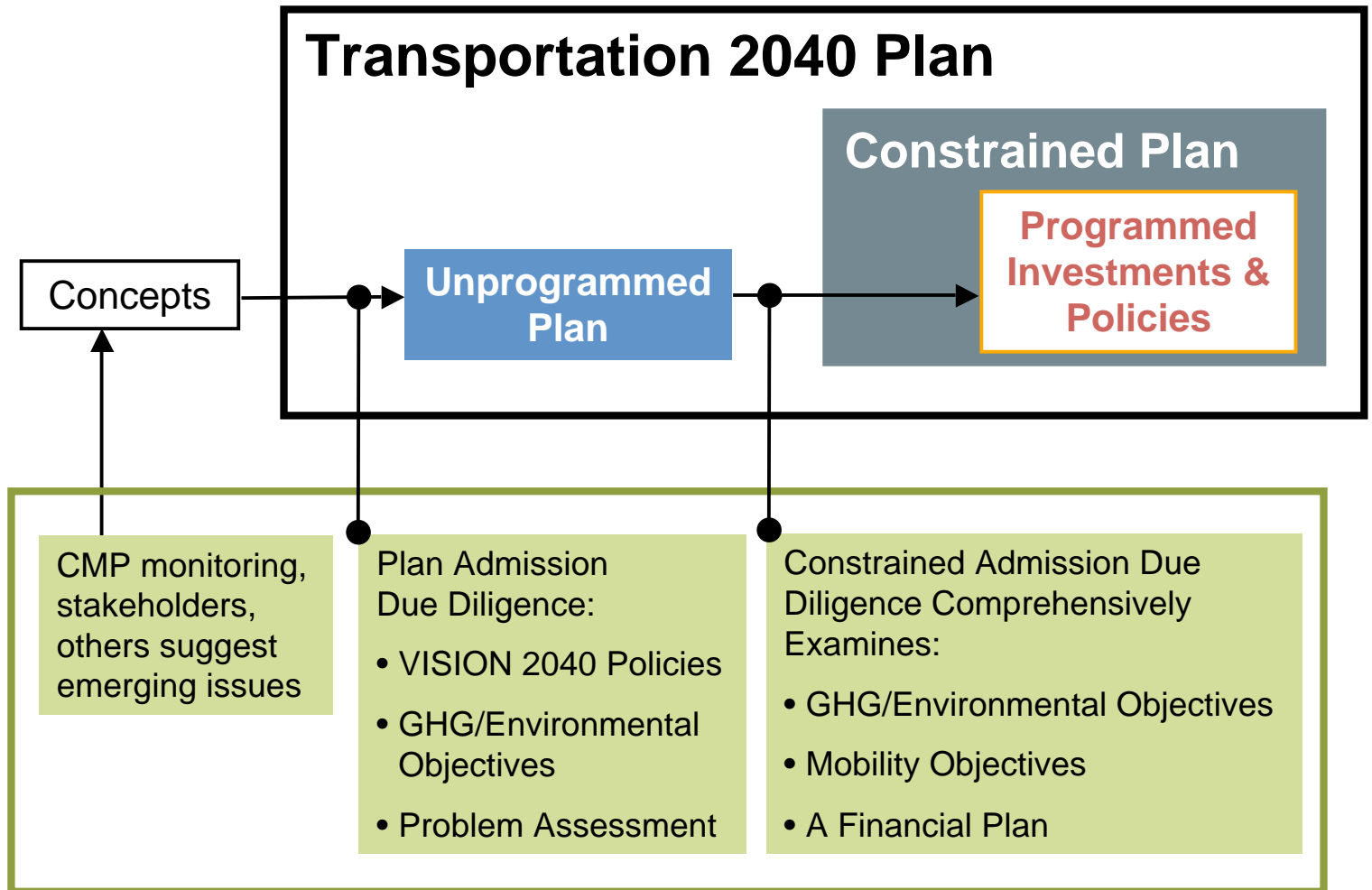
Overall: 440+ Meetings

Since 2007

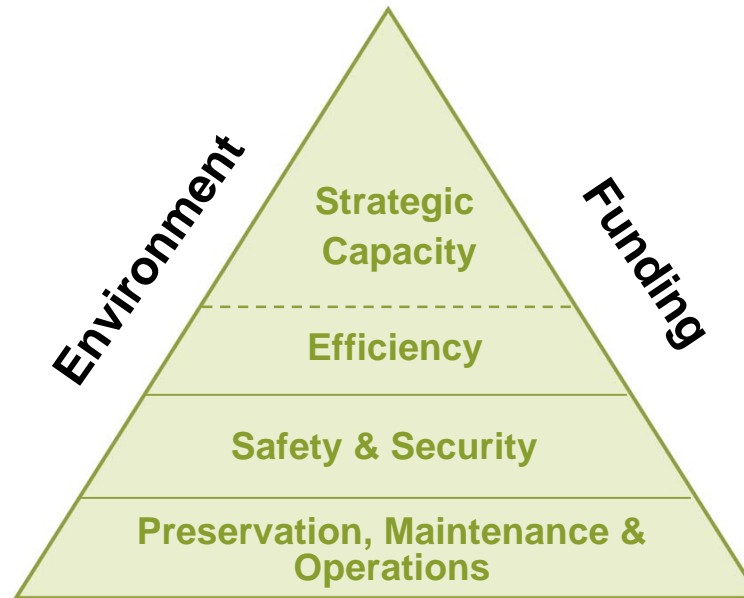


Preferred Alternative

Concept of Plan Structure



Draft Plan Framework



Congestion & Mobility

VISION 2040 - the foundation for T2040
Sustainable Growth and Economic Development

Preservation, Maintenance, Operations

Included in Constrained Part of Plan

- **Transportation Demand Management (TDM)**

Sustain efficient mobility choices programs

- **System Management & User Information**

Maintain current efforts

- **Roadways**

Address high-priority preservation backlog – highways, arterials, local streets, and bridges such as South Park and Magnolia

- **Regional Transit**

Maintain Sound Transit 1, 2, and BRT service

- **Local Transit**

Recover pre-recession local transit capacity

- **Bicycle/Pedestrian**

Maintain existing connections

- **Ferries**

Sustain current service and begin WSF boat replacement; manage demand with reservation system

- **Freight**

Maintain state & local roadways (see 'Roadways' above); maintain multimodal portions of system



Safety

Included in Constrained Part of Plan

- **Target Zero**

Program to address driver and occupant behavior (fund Target Zero program)

- **Roadway Geometry**

Urban and rural road programs (i.e., US 2, SR 522), intersection design (fund key safety projects, make safety fundamental design goal in all projects)

- **Conflicts**

Improvements for bicycle/pedestrian, rail/auto conflicts in urban areas (fund key safety projects)

- **Roadway Technology**

Monitoring, detection, incident response and management (fund wider incident response)

- **Facility Design & Monitoring**

Integrated safety features in design of all projects (complements all of above)

Security

Included in Constrained Part of Plan

- **Homeland Security Programs**
TSA, Urban Area Security Initiatives (UASI)
- **Local & Regional Disaster/Emergency Management Plans**
Transportation Recovery Plan, Regional Coordination Plan, etc.
- **Facility Design & Monitoring**
Integrated security features (i.e., CCTV at Sound Transit stations)

Transportation Demand Management

Included in Constrained Part of Plan

- Emphasize greatly expanded employer and residential programs to reduce travel demand and increase use of transit, vanpools, bicycling, and walking

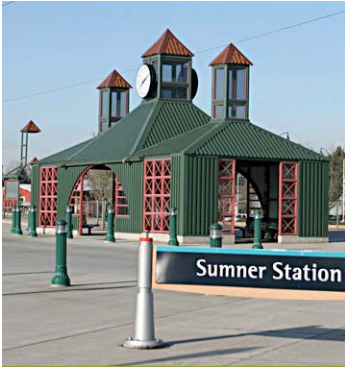


Trans. System Management & Operations

Included in Constrained Part of Plan

- Support an aggressive program of advanced technology on arterials and freeways, including:
 - better signal coordination
 - active traffic management
 - new and expanded traveler information services
 - transit-specific technologies to ensure on-time performance and better inform customers

Public Transportation Element



Included in Constrained Part of Plan

- Implement an aggressive transit strategy
- Complete Sound Transit 2 projects and Light Rail extensions to Everett, Tacoma and Redmond
- Increase local transit service by approximately 90%, while achieving operational efficiencies to reduce long-run costs
- Emphasize additional all-day service with high frequencies (generally every 15 minutes)

State Highway Element

Included in Constrained Part of Plan

- Complete the network of roadway projects necessary to support development of the centers identified in VISION 2040 and keep freight moving to support a strong economy
- Rely directly on users of the new highway capacity to pay for improvement through tolling, which also has positive effects on reducing congestion and emissions

Complete These Major Projects:

- Build the missing regional highway links on the SR 167 extension, SR 704 Cross- Base Highway, and SR 509 south of Sea-Tac Airport
- Replace two vulnerable structures — the SR 99 Alaskan Way Viaduct and the SR 520 Floating Bridge
- Widen US 2, SR 3, SR 9, SR 522, and SR 18
- Complete/convert managed lane systems on I-5, I-405, I-90, and SR 16

Local Roadway Element

Included in Constrained Part of Plan

- Complete transit supportive and efficiency investments, and access to and within centers, with the addition of a limited number of strategic projects



Nonmotorized Element

Included in Constrained Part of Plan

- Bike and walk improvements focused in regional growth centers, facilities with one terminus in a center, or within 3/4 mile of transit passenger facilities, and facilities that overcome a “barrier” (such as crossing I-5) or provide a missing link
- Approximately 380 miles of off-road regional trails

Special Needs Transportation Element

Included in Constrained Part of Plan

- Address the growing demand for special needs transportation and implement our federally required Coordinated Transit-Human Services Transportation Plan



Ferry Element

Included in Constrained Part of Plan

Automobile Ferries (state and local)

- Maintain existing boats and terminals, as well as current routes and service
- Some auto capacity will be added due to scheduled fleet replacement with slightly larger boats
- Replace the Seattle and Mukilteo terminals

Passenger Ferries

- Maintain the Seattle–Vashon, West Seattle–Seattle CBD Water Taxi, Bremerton–Port Orchard, and Bremerton–Annapolis passenger-only ferry routes and service levels
- Start new passenger-only ferry service between downtown Seattle and Bremerton, Kingston, and Southworth

Aviation & Passenger Rail Elements

Included in Constrained Part of Plan

Aviation

- Carry forward the strategy adopted in Destination 2030 and build upon the recently completed statewide Long-Term Air Transportation Study (LATS)

Intercity Passenger Rail

- Recognize Washington State's commitment to improving the intercity rail passenger service provided by Amtrak along the Pacific Northwest Rail Corridor over the next 20 years
- Highlight the potential to develop a high-speed rail corridor linking the major cities of the Pacific Northwest region



Unprogrammed Projects & Programs

Transportation 2040 has projects and programs that aren't covered by the financial strategy, including:

- Further expanded TDM programs and services
- TSM&O: Fully coordinated, integrated multi-modal corridor operations
- Full Sound Transit Long-Range Plan
- Rail passenger service in BNSF eastside corridor
- Additional local transit service hours. Region wide transit-supportive ITS/ROW infrastructure
- Complete streets in all cities. Optimal maintenance cycle
- Approximately 270 miles of additional regional trails. Fully connected bicycle network to, within, and between regional centers (3-mile access). Full sidewalk and pedestrian networks in cities (1-mile access).
- Continued ferry vessel replacement and 8 new passenger-only ferry routes

Congestion & Mobility Strategy

Congestion Management Process

- Land Use Planning (VISION 2040)
- Demand Management
- Transportation System Management and Operations
- Strategic Capacity

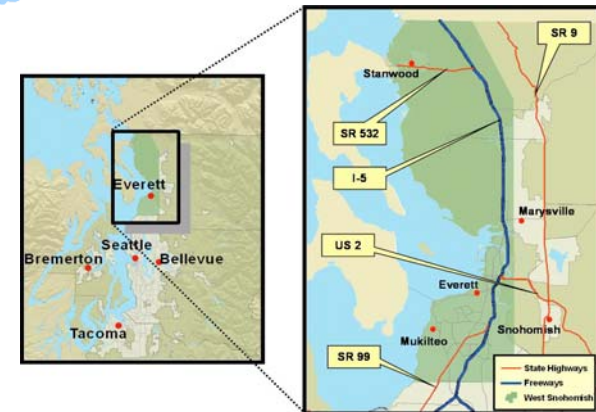
Region



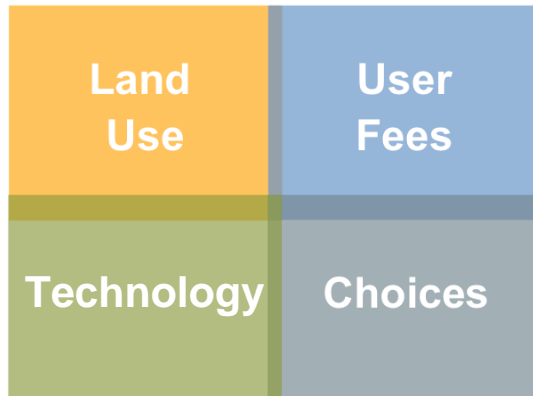
Sub-area



Corridor



Greenhouse Gas Strategy



Land Use

Implement VISION 2040

- Jobs Housing Balance (macro)
- Centers, Transit Oriented Development & efficient communities (micro)

User Fees

Implement Roadway Pricing to support VMT reduction and reduce travel delay emissions

Choices

Expand transportation choices that reduce GHG emissions ⁽¹⁾

Technology

Support development of technology to dramatically reduce tailpipe emissions ⁽²⁾

(1) Post plan work item designed to better understand the cost and benefits of strategies

(2) State, local and regional action item-
-white paper being developed

Water Quality Strategy

Minimize Transportation Impacts

- Support for Compact Development
- VMT Reduction
- Impervious Surfaces Minimized
- Cleaner Vehicles
- Cleaner Fuels
- Retrofit of Existing Infrastructure
- Restoration of Buffers, Natural Channels
- Improved Materials and Runoff Management



Freight Strategy

Congestion and Mobility

- Support Preservation and Maintenance – “Last Mile” (Primarily Arterials) in the regional supply chain
- Support Key Projects in the region, for example...SR 509, SR 167 Extension, and FAST Corridor
- Support for Manufacturing Industrial Centers as well as Key Regional Assets such as the deep water ports, and the services of two Class 1 Railroads

Sustainable Funding

- Tolling strategies should be implemented in a way that provides benefits (nexus) for freight and goods movement

Environment

- The region should work towards staying ahead of critical environmental issues, for example the Northwest Ports Clean Air Strategy



Financial Plan Strategy

- Funding to **maintain and operate** our current assets and services is the highest priority (approximately \$110B of Draft Constrained Plan)
 - This includes near-term revenue challenges for local transit operators need to be acknowledged (dependency on sales tax)
- **Traditional tax financing** (gas tax, etc.) will still play a central role
 - Especially in the early years of the plan
- There should be a **nexus between the tax, fee, or toll** and the **use** of the revenues (e.g. benefit users of the system and the environment)
- Increase reliance on **tolls – phased in over time**
 - Tolls should be set in a manner that strives to improve travel benefits to all users (freight and people) of the transportation system
 - The use of toll revenues should also evolve over time towards increasingly broader uses
- The plan's financial element should be based on a “general scenario” that **allows flexibility in implementation**



New: General Scenario

The plan's financial element should be based on a “general scenario” that allows flexibility in implementation.

- This approach can address uncertainty and a learning process regarding potential new funding sources
 - Learning from SR 167 HOT, SR 520 use of early and variable rate tolling, etc.
 - Allow time to build upon the public acceptance such as that associated with the Tacoma Narrows and SR 167 HOT lane projects
- Recognize the reality that over the next 30 years there are a wide variety of possible source and use combinations which the State Legislature and local governments will consider
- Recognize that this scenario will not resolve all issues, but rather help set policy direction

New Funding Scenario Approach

Increase reliance on new user fees and tolls — phased in over time

- Substitute for fuel taxes (such as VMT charge) 1 cent/mi 2020; 2 cents/mi in 2030
- Tolls, parking charges and fares to fund projects and programs

Use of toll revenues

- HOT lane revenues support the HOT system
- Facility tolls help finance toll projects
- Highway toll revenues used for various purposes
 - Highway system projects — primary use
 - Other programs over time (transit, local projects, etc.) — supporting travel in and providing alternatives to paying a toll in the corridor
 - Reduction in other transportation taxes and fees (dedicating 20% of highway tolls/mileage fees to a tax offset could eliminate all state fuel taxes in the long term)





New Funding Scenario Approach

Traditional tax financing, especially in the early years of the plan

- Early — modest fuel tax increases
- Various local sources (road levy, employee tax, impact fees, vehicle registration fees, street utility)
- New local transit funding in early years such as MVET (or other stable source)
- Sales tax increases for local and regional transit as needed



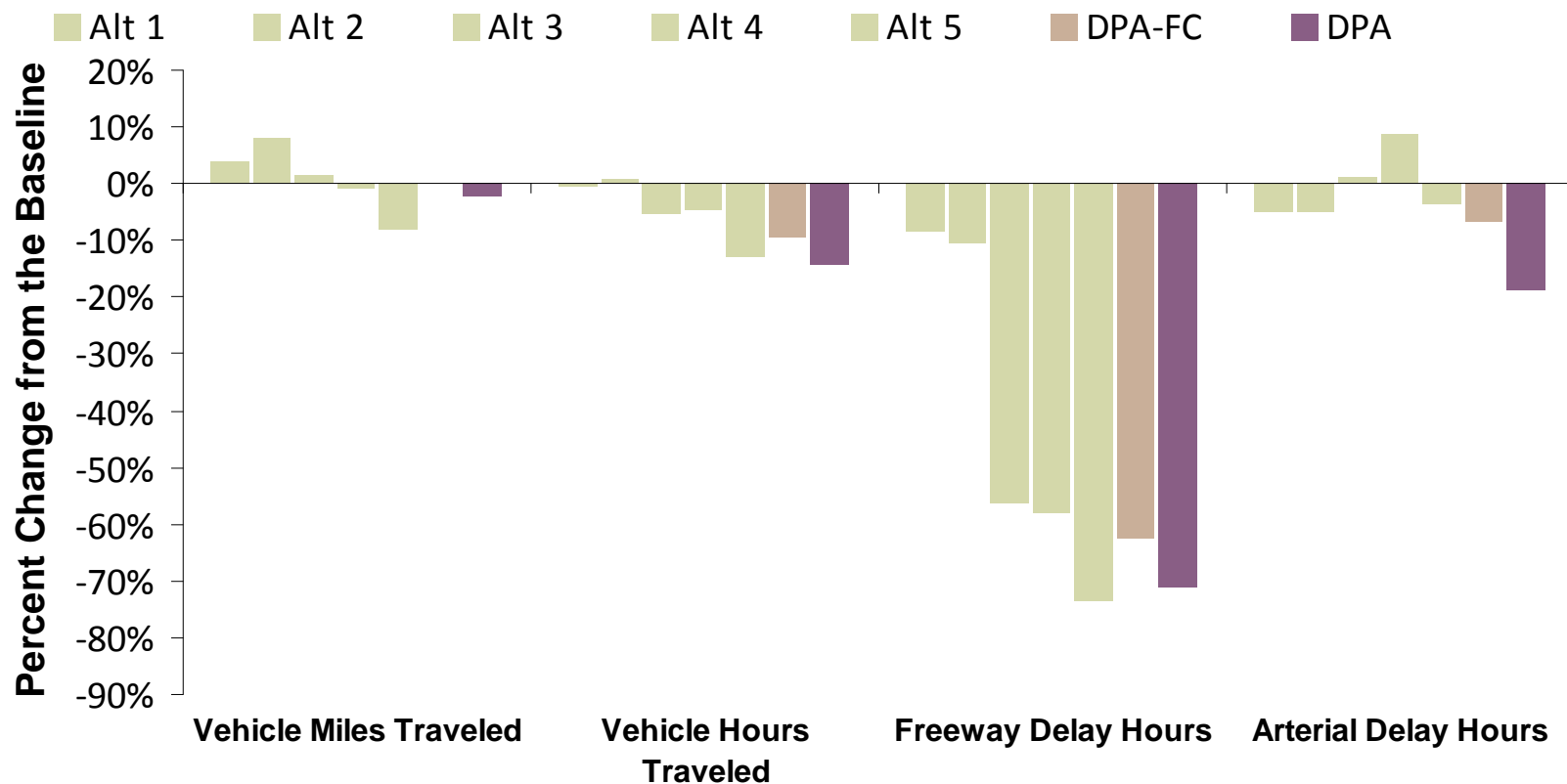
Draft Preferred Alternative Performance

Vehicle Use and Delay

DPA-FC = Draft Preferred Alternative-Financially Constrained

DPA = Draft Preferred Alternative including Unprogrammed projects and programs

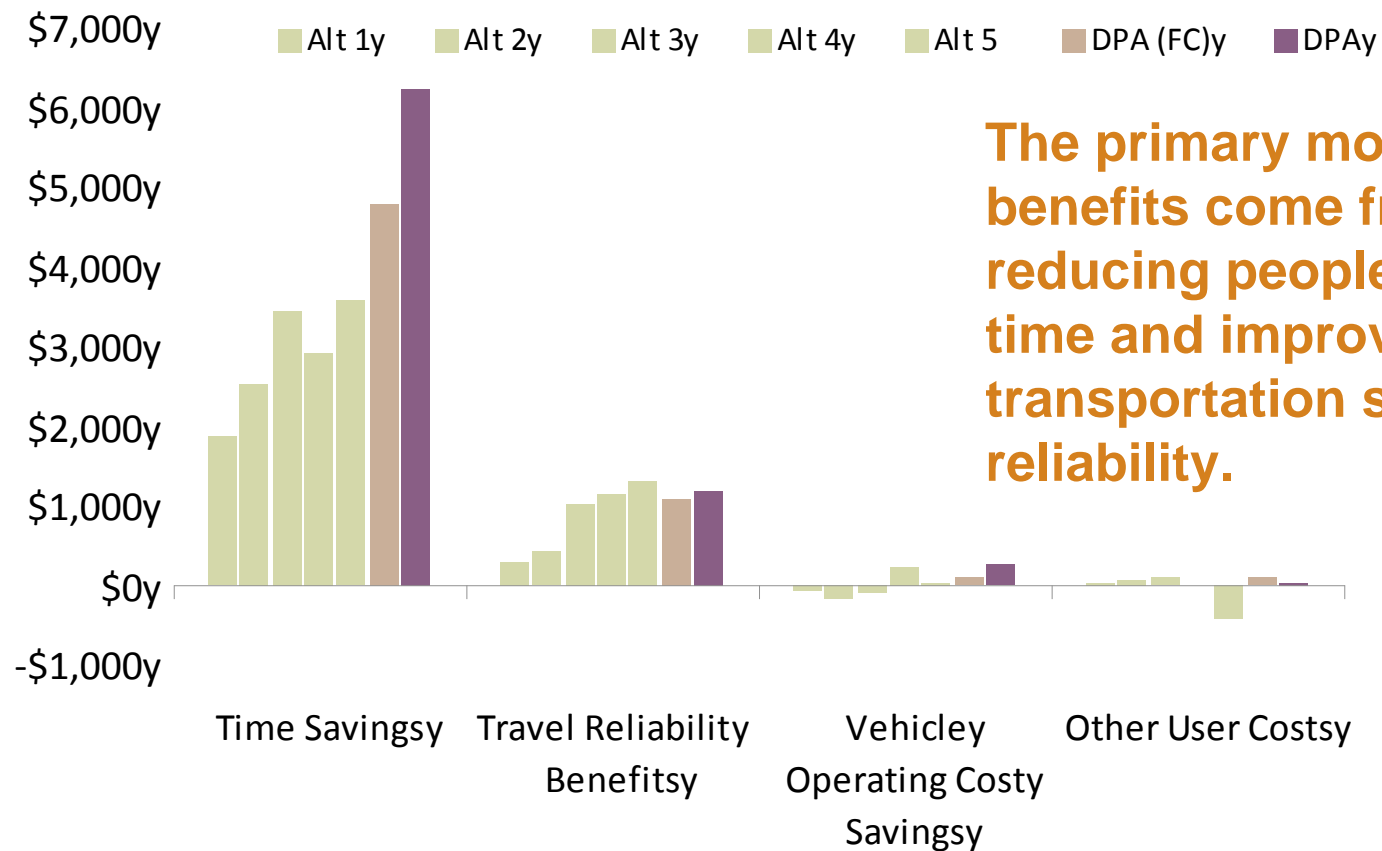
Daily Vehicle Miles Traveled, Hours Traveled and Delay



Mobility Benefits by Type

2040 Mobility Benefits by Type

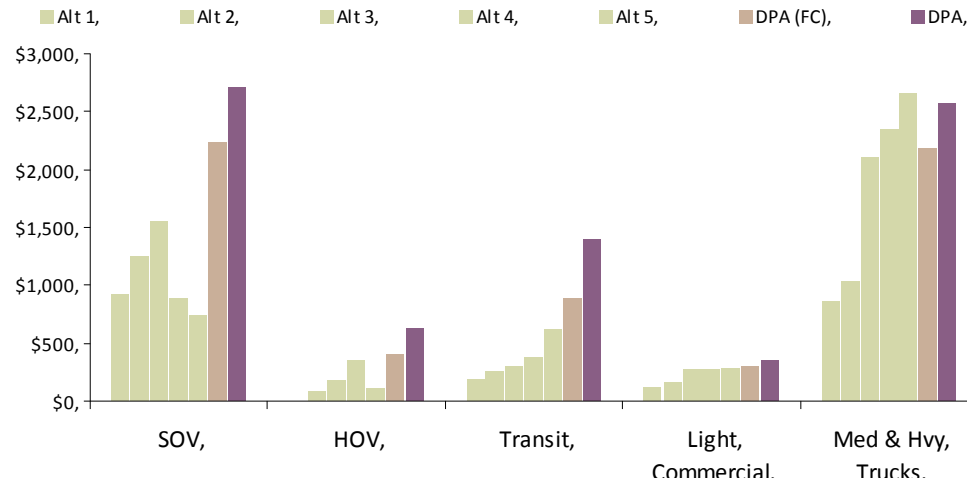
(in millions of dollars per year for all transportation system users)



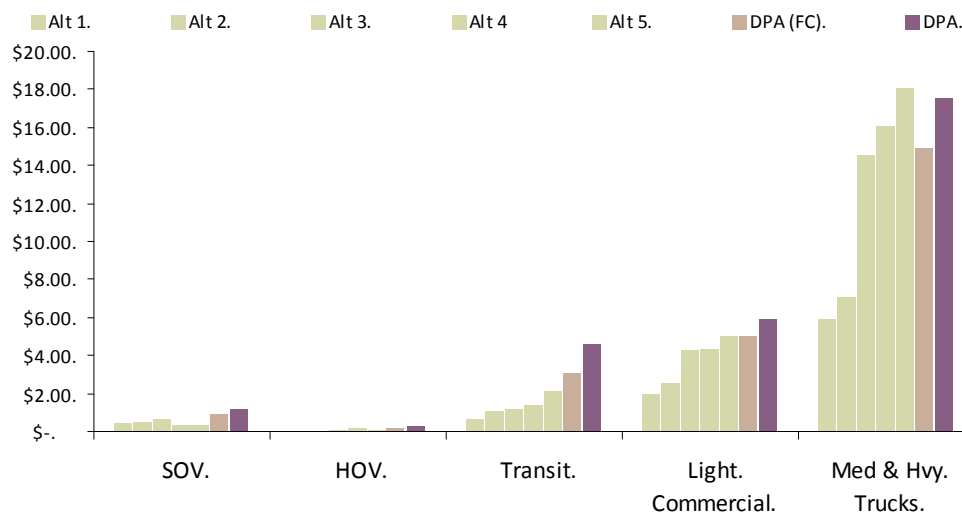
The primary mobility benefits come from reducing people's travel time and improved transportation system reliability.

Mobility Benefits by User Type

Annual Mobility Benefits Relative to the 2040 Baseline (millions of 2008 dollars)



Mobility Benefits per Trip Relative to the 2040 Baseline

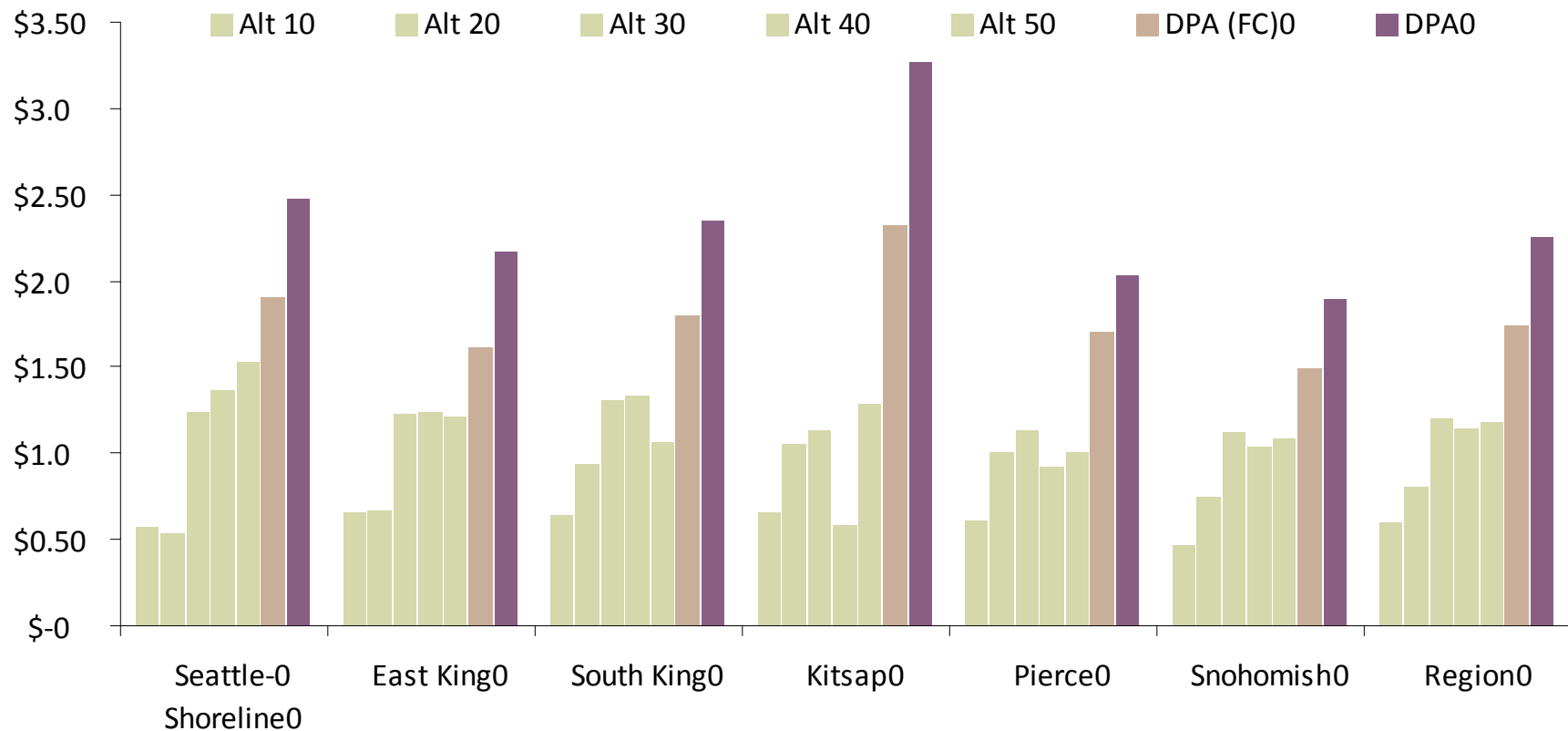


Substantial overall mobility benefits – particularly for SOV and freight users.

Transit and freight users high per-trip user benefits.

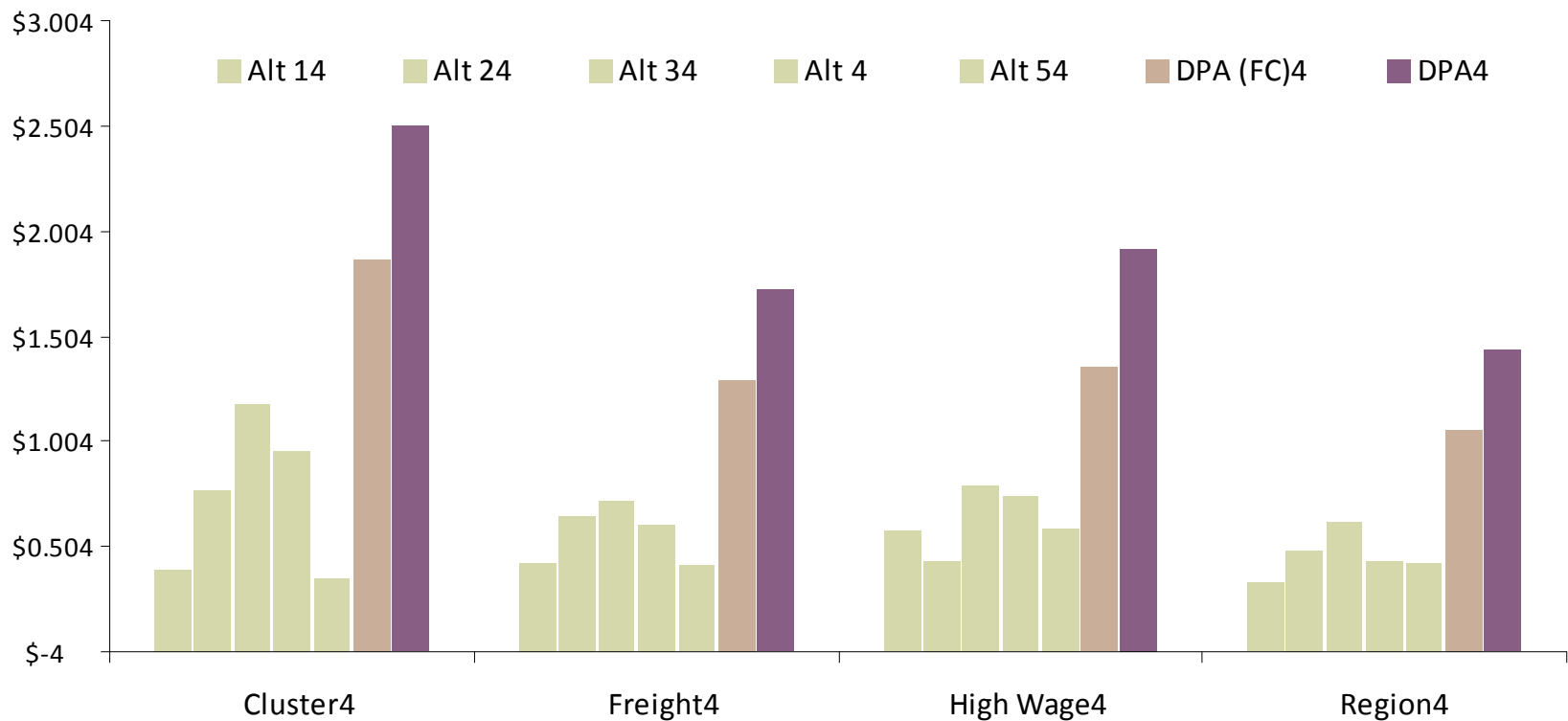
Sub-Regional Benefits

Average Per Trip Benefits for all Trips Originating within Area (Change from 2040 Baseline in dollars per trip)



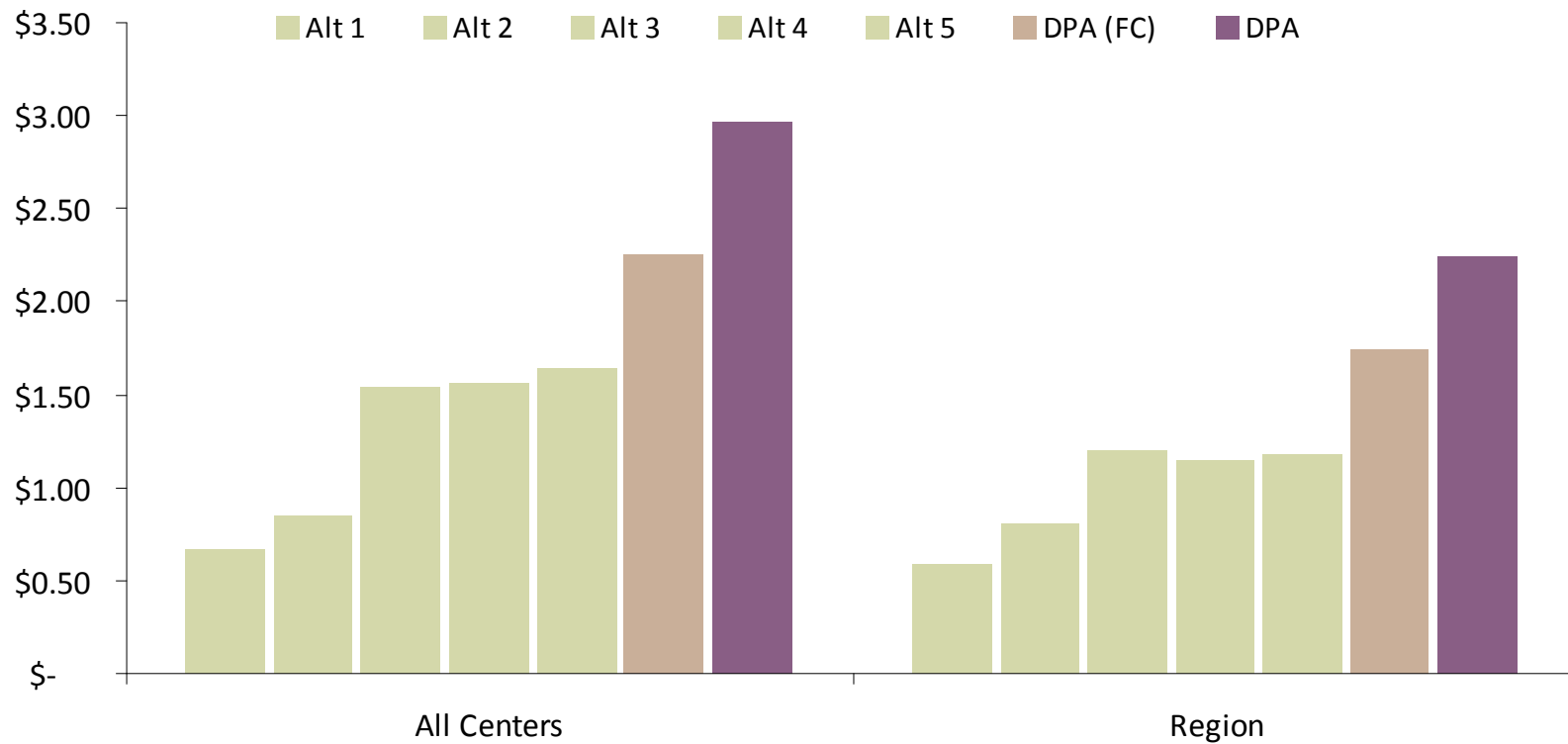
Benefits to Industry Concentrations

**Average Per Trip Benefits for all Trips Originating in Zones with High Concentrations of Sector Employment
(Change from 2040 Baseline in dollars per trip)**



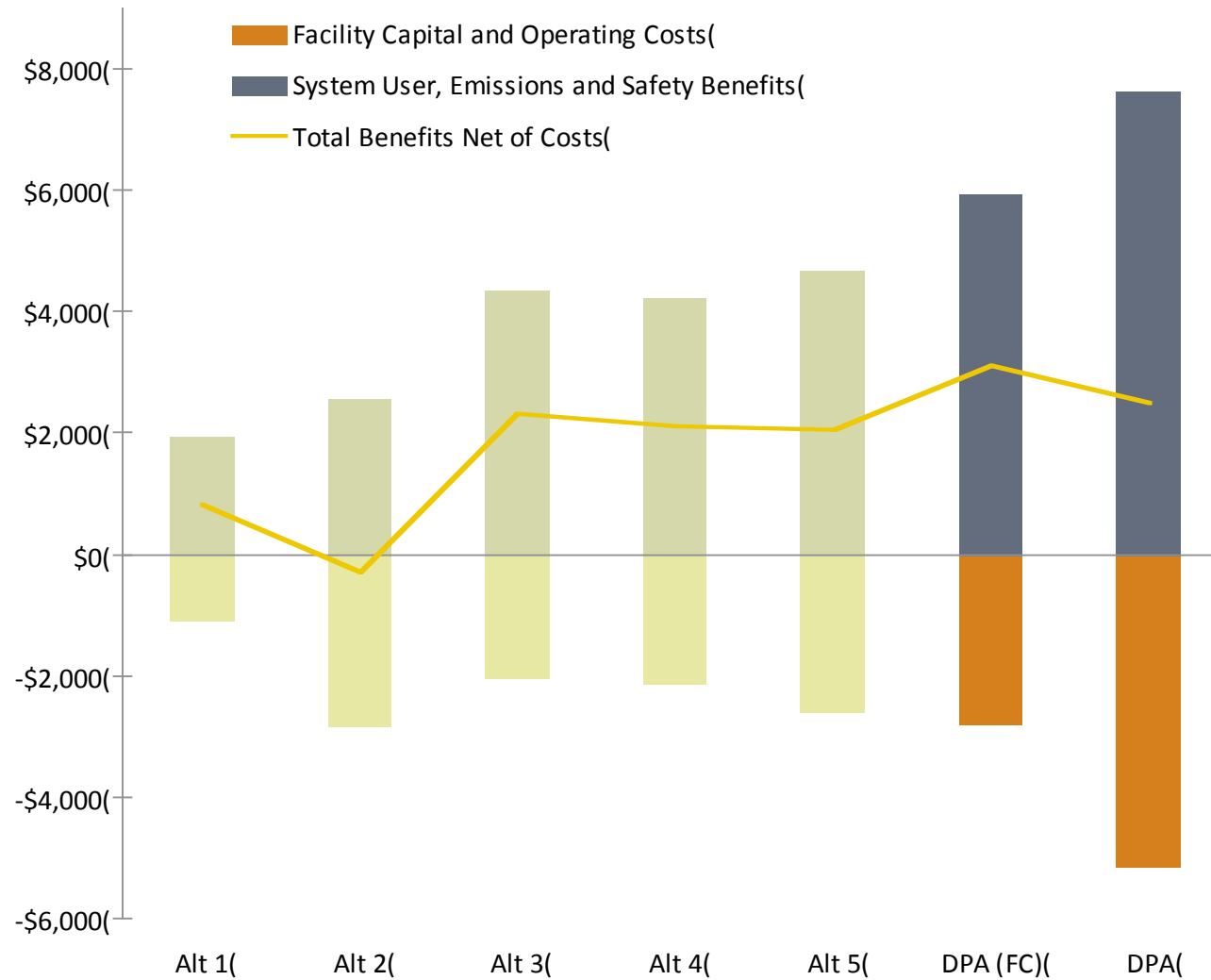
Support for Centers Development

Average Per Trip Benefits for all Trips Originating within Area (Change from 2040 Baseline in dollars per trip)



Benefits and Costs

2040 Benefits and Costs of the Alternatives (millions of 2008 dollars)

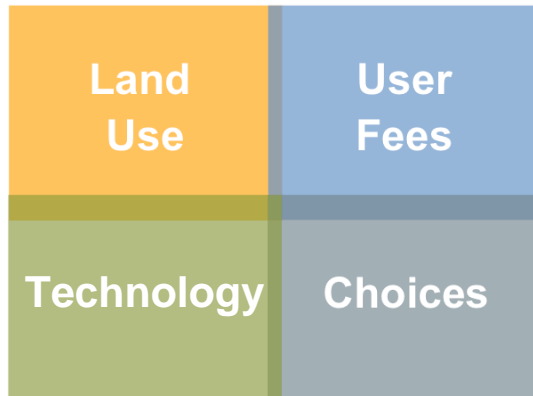


Additional Considerations Regarding PPA Performance

Included in Draft Preferred Alternative,
limited representation in the model:

- Health implications
- Bike and walk trips affected by local infrastructure investments (sidewalks, bike lanes)
- Management/operational strategies
- Demand management programs
- Demand-response transportation

Greenhouse Gas Strategy



Land Use

Implement VISION 2040

- Jobs Housing Balance (macro)
- Centers, Transit Oriented Development & efficient communities (micro)

User Fees

Implement Roadway Pricing to support VMT reduction and reduce travel delay emissions

Choices

Expand transportation choices that reduce GHG emissions ⁽¹⁾

Technology

Support development of technology to dramatically reduce tailpipe emissions ⁽²⁾

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Greenhouse Gas Strategy

Technology

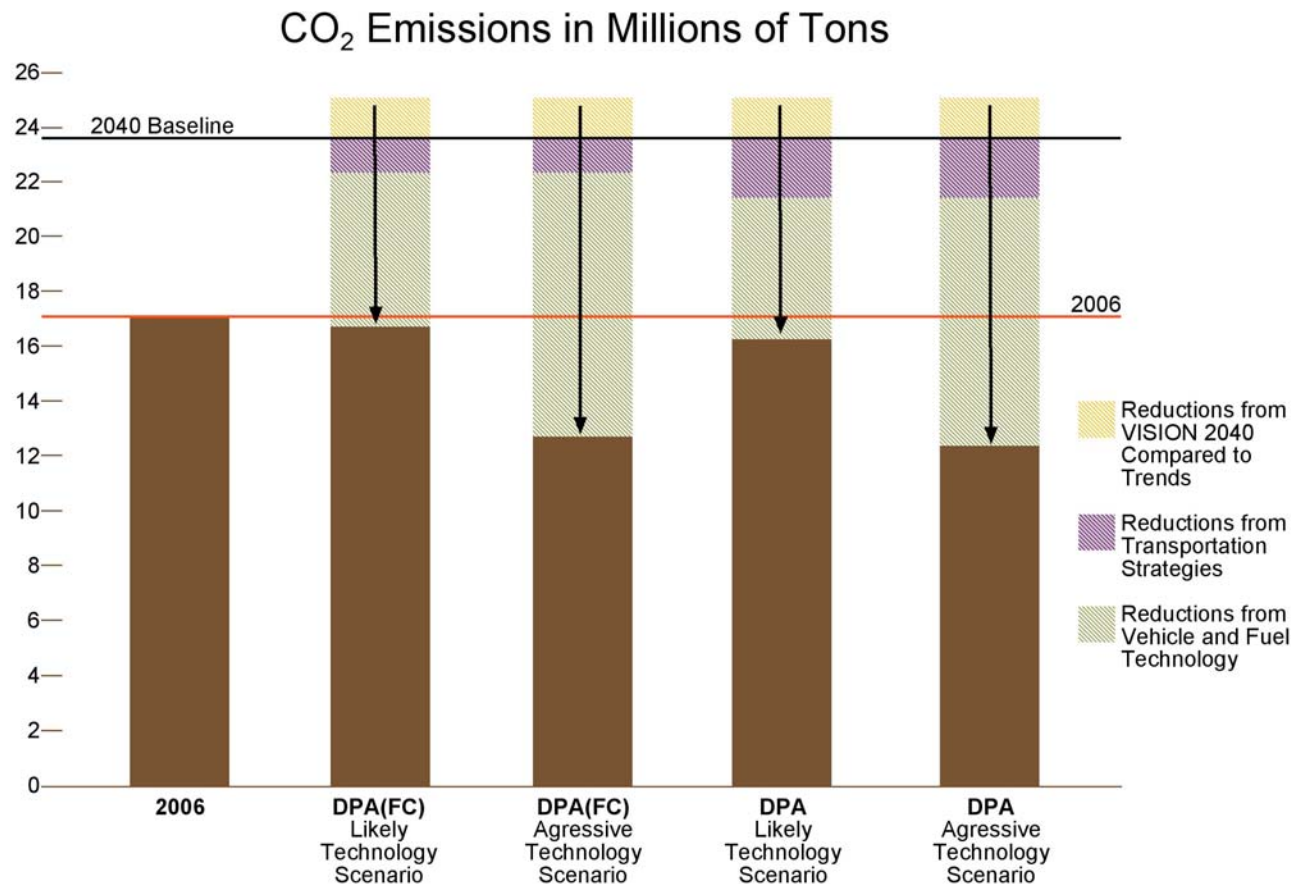
Support development of technology to dramatically reduce tailpipe emissions

In partnership with Ecology, we have developed the following assumptions for the 2040 vehicle fleet, from “likely” improvements to “aggressive” improvements:

	LIKELY SCENARIO ¹	AGGRESSIVE SCENARIO ²
Percent of Electric Vehicles in Fleet	20%	45%
Improvements to Fuel Economy	40 mpg	50 mpg
Reduction of Carbon Intensity of Fuel	10%	25%
Improvements to Heavy Duty Vehicles	5%	10%

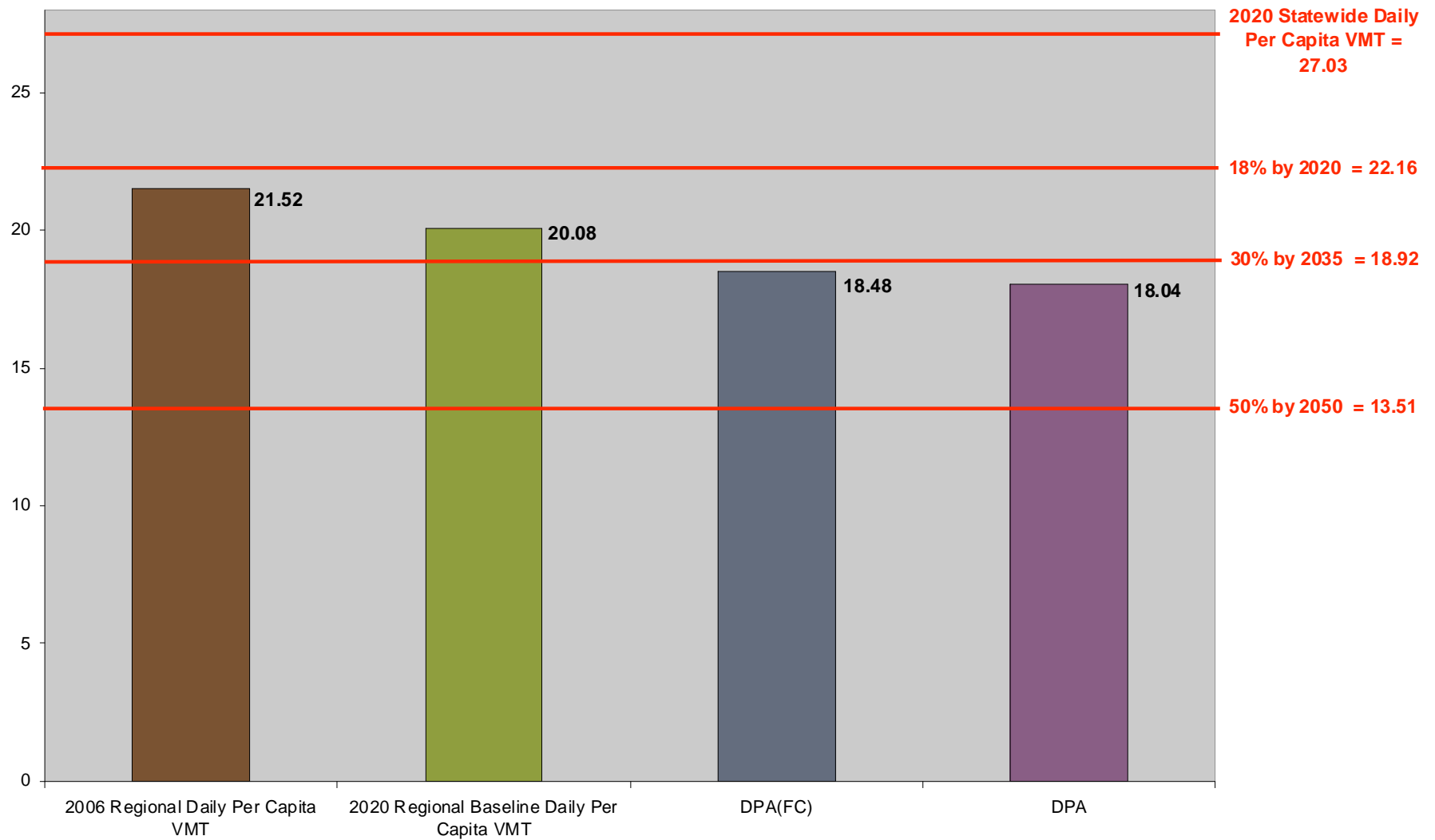
Greenhouse Gas Strategy

- Land Use: VISION 2040 resulted in a 6% reduction in GHG emissions from the trend
- User Fees and Choices: the transportation investments in the DPA result in a 9% reduction in GHG emissions from the Baseline
- With the application of likely and aggressive technology improvements, the DPA results in a total GHG emissions reduction from the Baseline of 31% (5% below 2006 levels) to 48% (28% below 2006 levels)



VMT Per Capita

Daily Per Capita VMT





Greenhouse Gas Strategy

Summary of GHG Analysis:

- Investments and strategies through land use, user fees and providing transportation choices result in GHG emission reductions from the Baseline of 6% [DPA(FC)] to 9% [DPA]
- With assumptions for vehicle and fuel technology improvements by 2040, *additional* reductions of GHG emissions in the range of 25-43% are possible
 - *All four components of the GHG Strategy combined result in GHG emissions 5-28% below 2006 levels*
- These results are consistent with state and national research related to transportation GHG emissions reductions

All four components of the strategy are necessary to achieve reductions; the region and the state will continue to work together to pursue options for reducing GHG emissions from the transportation sector

Recent changes:

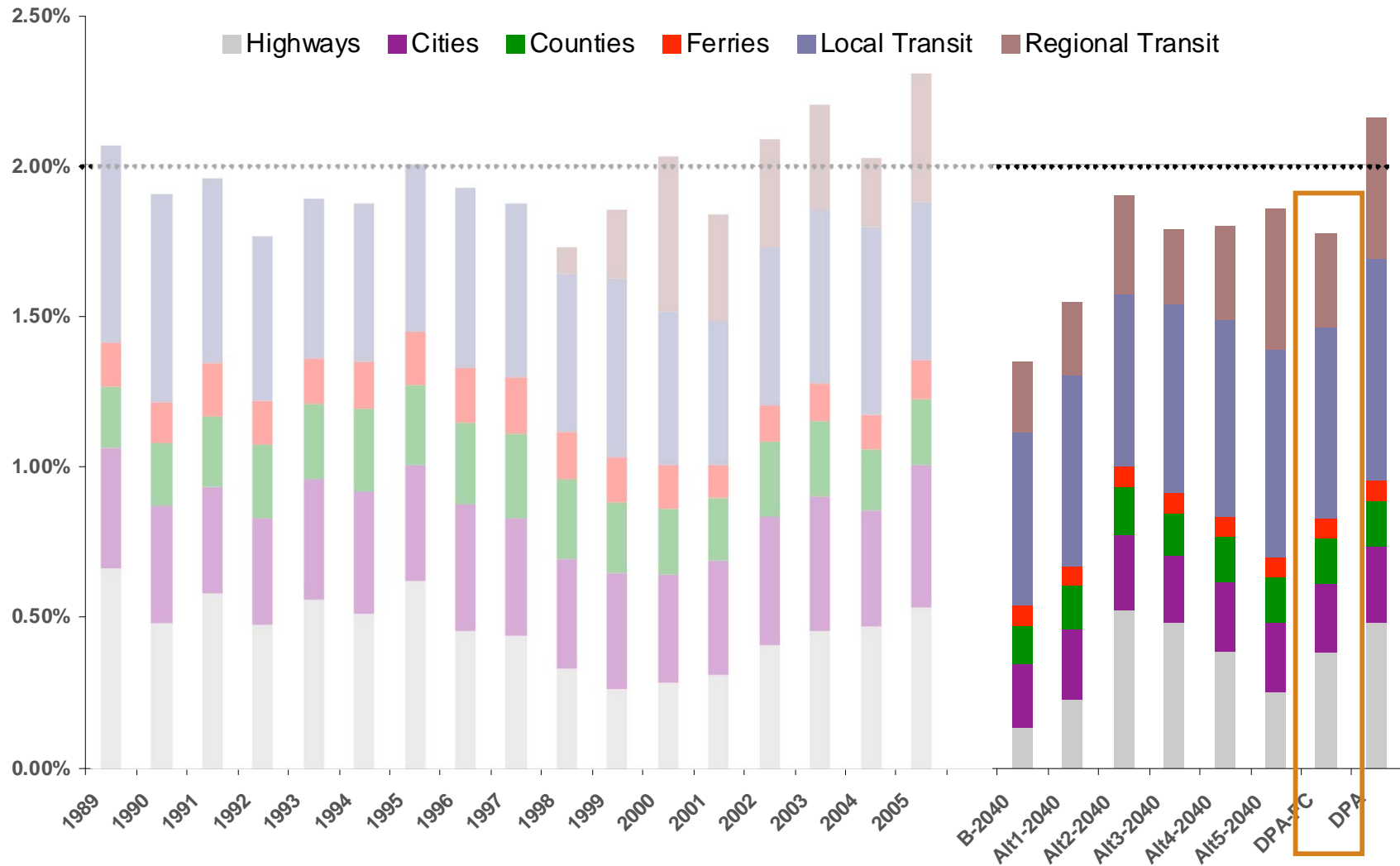
- Updated maintenance preservation costs for cities and counties
- Added Washington State Ferries vessel replacement costs for later plan years
- Updated WSDOT and arterial project costs
- Revised local transit service cost estimates to reflect expected cost containment efforts
- Revised near-term current law revenue estimate for local transit due to weaker than expected sales tax revenues

(millions of year 2008 constant dollars)

	Baseline	Alt 1	Other	Total		\$	6,800	\$	8,900	CLR
Counties	\$ 15,100	\$ 15,400	\$							8,800
Cities	\$ 25,300	\$ 26,800	\$							20,100
Local Transit	\$ 41,600	\$ 47,400	\$							44,500
Sound Transit	\$ 32,400	\$ 33,200	\$							32,400
State Ferries	\$ 8,200	\$ 8,200	\$	8,200	\$ 8,200	\$ 8,200	\$ 8,200	\$ 8,200	\$ 8,200	\$ 5,400
State Highways	\$ 14,200	\$ 22,600	\$ 50,100	\$ 45,000	\$ 36,000	\$ 22,800	\$ 36,500	\$ 45,500	\$ 14,100	
Passenger-Only Ferries	\$ 500	\$ 1,300	\$ 800	\$ 1,000	\$ 1,300	\$ 1,300	\$ 500	\$ 1,300	\$ -	
ITS/Operations	\$ 300	\$ 2,900	\$ 1,300	\$ 1,600	\$ 1,600	\$ 2,900	\$ 1,600	\$ 1,600	\$ -	
Demand Management	\$ 600	\$ 1,800	\$ 600	\$ 1,200	\$ 1,200	\$ 1,800	\$ 1,500	\$ 1,800	\$ -	
Regional Non-motorized	\$ 100	\$ 200	\$ 200	\$ 200	\$ 200	\$ 600	\$ 300	\$ 500	\$ -	
Toll System	\$ -	\$ 600	\$ 1,000	\$ 3,200	\$ 3,000	\$ 3,700	\$ 3,000	\$ 3,700	\$ -	
Other Total	\$ 1,300	\$ 6,700	\$ 3,900	\$ 7,100	\$ 7,300	\$ 10,300	\$ 6,800	\$ 8,900	\$ -	
TOTAL	\$138,100	\$160,300	\$196,200	\$183,700	\$184,800	\$191,000	\$190,800	\$226,700	\$125,200	

Transportation Expenditures and Income

Transportation Expenditures as a Percent of Regional Personal Income (1989 -2 005)



New Revenue Needs: Draft General Scenario

GENERAL FINANCIAL SCENARIO 2010-2040 04

(millions of year 2008 constant dollars),

	2010-20204	2021-20304	2031-20404	2010-20404
Various Local Sources,	\$3,000,	\$3,200,	\$3,800,	\$10,000,
Various Transit Specific Sources,	\$2,300,	\$7,600,	\$7,500,	\$17,400,
Fuel Taxes, State Fees and Fuel Tax Replacement,	\$4,200,	\$3,200,	\$3,800,	\$11,200,
HOT Lanes and Facilities Toll Revenues (Bonded),	\$5,400,	\$1,000,	\$0,	\$6,400,
Highway System Tolls,	\$0,	\$0,	\$26,000,	\$26 000,
Offsetting of other taxes with toll revenues,			(\$6,000),	(\$6,000),
Total New Revenue4	\$14,9004	\$15,0004	\$35,1004	\$65,0004

- In the last decade (2001-2010) the region secured over **\$20 billion** in new revenue for transportation*
- In the next three decades we need to secure an additional **\$65 billion** (est. approximately 50% from toll revenue)

*ST2, Nickel, TPA, Transit Now, Bridging the Gap, etc.

NOTE: The financial element will present new funding strategies with ranges of expected revenues by category and provide detailed examples of how these strategies can be realized through specific actions



Responding to Change

The Preferred Alternative is designed to be flexible to:

- Incorporate Progress in Required Plan Updates
- Respond to Any New Federal Reauthorization Requirements
- Learn from:
 - Ongoing GHG Research, Analysis, Requirements
 - Implementation of HOT Lane Demonstration Projects and New Tolled Facilities
 - Transportation, Air Quality and Land Use Model Improvements
 - Updated Growth Targets, Local Comprehensive Plans
- Refine Project Prioritization Process

We're Here to Help

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